LIGATURE OF THE GLUTEAL ARTERY

FOR

TRAUMATIC ANEURISM.

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The patient was under the care of Dr. Fenwick, from the occurrence of the accident till the 29th January, and the description of the case till that period is from his notes.

"C. A., æt. 14 years, small but muscular for his age, was accidentally wounded in the right buttock on the afternoon of Friday, 17th January, 1862.

It appears that he had taken a small sled to a blacksmith's shop to have some part of it ironed; the smith had heated a piece of iron of about the size of a 3-inch nail, intending to bore a hole with it in a slender piece of wood; as he left the fire with the iron in his pincers, heated to whiteness, he accidentally came in contact with the boy, but as he sprung out of the way, and did not express any sense of pain, the smith paid no attention to him but proceeded with his work.

In a few moments the boy said, "I am bleeding." The smith at once turned to him, took down his trowsers, and in doing so blood, in a considerable stream, spouted out of a small hole in the buttock. He immediately placed his finger over the wound, but had hardly done so before the boy fainted. Still retaining his thumb in position, he carried him to his father's office which was in the neighbourhood. When I saw him he was pale, exsanguine, and almost pulseless; complained of dizziness, singing in the ears, and said he felt sick at the stomach. No pain or uneasiness was experienced in the wound, and with some little difficulty I induced the blacksmith to relinquish his hold. As he did so a drop or two of dark coloured blood welled from a small wound, in size about that of a pea, situated about one inch and a half behind the right trochanter major. The trajet of the wound appeared to pass upwards and backwards. I made no examination of its depth, but applied a graduated compress and roller, enjoined perfect rest, and ordered cold water dressing. The following day there was slight uneasiness felt in the wound, and general tenderness all over the buttock. The bandage was removed, but the compress was left, retained in position by adhesive plaister. On the fourth day, great pain of a bursting character extending down the back of the thigh was complained of. On removing the compress, a considerable quantity of pus flowed from the wound, which was followed by a bloody ichor. This gradually altered in character, becoming puru-

lent, and lessening in quantity. The lips of the wound presented a charred appearance, and a small slough was separating. The following Sunday, ten days after the accident, he got up and was going about the house; the limb was stiff and sore, and he could not walk without the help of a stick. There was very slight discharge, and healthy granulation had filled up from below. The next day, Monday, in attempting to leave his bed, blood in considerable quantity spouted again from the wound. I saw him shortly afterwards, but the hæmorrhage had been quickly arrested by a compress and ice. He was suffering much pain in the buttock and calf of the leg. On Wednesday, the 13th day after the accident, while I was in the house, he called out that it was bleeding again. On removing the dressings, a stream of arterial blood spurted from the wound with considerable force; I immediately arrested it with my finger, and in doing so, felt the blood well up against the finger, and elevate the buttock into a sack, which I judged to be about the size of a hen's egg."

It was at this point in the history of the case, on Wednesday, 29th January, twelve days after the occurrence of the injury, that Dr. Fenwick, who has kindly favoured me with the foregoing statement, requested me, in conjunction with Dr. Jones, to visit his patient. Upon examination the small punctured wound already described, was observed, which led to a tumour three inches posterior to the right trochanter, about the size of a hen's egg. The tumour was beneath the *gluteus maximus* muscle, was very painful to the touch, and a faint *bruit* was heard in it, upon the application of the stethoscope. It was evidently aneurismal, and from the course of the wound, which ran backwards and upwards for about three inches in the direction of the *sacro-sciatic* notch, it was believed to be traumatic aneurism, either of the trunk, or one of the large branches of the gluteal artery, in the immediate vicinity of the notch.

It was agreed to try the effect of injecting the aneurismal sac with the solution of the perchloride of iron, to endeavour to produce coagulation of its contained blood, with the hope that further operative proceedings might thereby be rendered unnecessary. The stilette of the syringe was introduced into the sac through the wound, and one drachm of the fluid injected. The tumour became hard immediately after the injection, and all hæmorrhage ceased. The discharge, a couple of days afterwards, again became purulent, and the indications seemed to promise a successful result, when on the following Monday, five days after the injection, being in the immediate neighbourhood, I was requested in great haste to visit the patient. I found there had been a recurrence of free arterial hæmorrhage from the wound, a vermiform clot of about three inches in length having been previously expelled by the *vis a tergo*. The boy's mother had arrested the bleeding, by placing her finger upon the orifice of the wound. He complained of great pain and a feeling of tension in the hip, which was evidently elevated and tense from the sudden distension of the sac. I covered the wound and tumour with snow, and requested his mother, should bleeding again recur, to place her finger as formerly upon the orifice of the wound, appointing to return with Dr. Fenwick and some other professional friends in a few hours thereafter, to take more efficient measures for the permanent arrest of the hæmorrhage.

Upon consultation, three methods of procedure were discussed: 1st. To cut

into the aneurismal tumour, to turn out the coagula, look for the mouth of the wounded vessel, and secure it where it entered the sac; 2nd. To endeavour, if possible, to avoid opening the sac, cutting down upon the trunk of the gluteal artery, and tying it where it emerges from the *sciatic notch*, and 3rd. To ligature the *internal iliac*. This last, although the proper operation for spontaneous aneurism of the gluteal, was rejected as unsuited to traumatic aneurism, and the 2nd was selected, as likely to be less bloody than direct incision, and unattended with any of the dangers of peritoneal inflammation, and less hazardous in its consequences than deligation of the *iliac;* besides it was in close proximity to the injured part of the artery, and on that account a better operation for traumatic aneurism. I was assisted by Drs. Sutherland, Scott, Fenwick, and R. P. Howard; the first named gentleman compressed the abdominal aorta against the spine, by means of a small book, and the others were prepared to assist in the steps of the operation, and in arresting hæmorrhage, should the incisions, to reach the trunk of the artery, open up the sac. The patient was put under chloroform, turned upon his face, and the operation commenced by making an incision about 6 inches long, from half an inch below the posterior spine towards the trochanter, through the integuments and subjacent cellular membrane, down to the gluteus muscle, the fasciculi of the muscle were then separated to the same extent, and in the same direction as the external wound, by the handle of the scalpel, the sides of the wound were separated by curved retractors, and the deeper layer of muscles was exposed. Not half an ounce of blood was lost. There was no need for hurry in the further steps of the operation; the pulsation of the artery was felt for at the upper and anterior portion of the notch; and when discovered, the aneurism needle, guided by the forefinger of the left hand, which was held on the artery deep in the notch, was placed under it; the end of the ligature was with some difficulty, from the great depth of the vessel, seized with a pair of dissecting forceps, and the artery was felt pulsating in the hight of the ligature before it was tied. From three to four ounces of coagulated blood were then pressed out of the sac, through the wound made by the nail, the trajet of which ran parallel to, and about half and inch beneath, the line of incision. The hæmorrhage having been found to be completely arrested, the sides of the wound were brought together by metallic sutures and adhesive straps, the boy was put to bed, and water dressing applied. Free suppuration both from wound and sac, commenced about the third day, and the ligature came away on the 6th day. A considerable quantity of offensive pus continued to be discharged for several weeks from the sac, the wound at length healed up, and the boy has now recovered perfectly.

I believe the plan of procedure selected in this case, the details of which have just been given, was more fortunate in its results, and certainly much less difficult in its execution, than if the ordinary rule in traumatic aneurism had been adopted, to open the sac and secure the orifice of the artery where it entered it. The patient was so anæmic from the previous hæmorrhages, and so greately reduced in strength from suffering and confinement, that it was essential to his very existence, that the operation should be performed with as little loss of blood as possible.

The original operation of John Bell, and the recent one of Mr. Syme of Edinburgh, where the sac was opened, were most formidable and bloody on that account. Few surgeons after perusing the details of Mr. Syme's case, so courageously and skilfully conducted to a fortunate termination, would, if any other feasible plan could be adopted, willingly undertake such an operation. I am aware that it might be objected to the method adopted in this case, that possibly the aneurism might have been formed upon a branch of the Sciatic artery; this, from the direction of the wound, I considered as very improbable, and granting that it was so, and that the ligature of the Gluteal had failed to check the bleeding, by drawing downwards the lower lip of the wound already made, the inferior margin of the *pyriform* muscle might have been reached, and the *sciatic artery* secured.

Montreal, 10th April, 1862.